What is claimed is:

1. An embryonic stem cell containing a disruption of the *FHIT* locus, wherein said disruption comprises a termination codon in an exon 5 coding region.

2. A transgenic nonhuman mammal comprising cells that contain a disruption of the *FHIT* locus, wherein said disruption comprises a termination codon in an exon 5 coding region.

3. The transgenic mammal of claim 2, which is chimeric for the disruption of the *FHIT* locus.

4. The transgenic mammal of claim 2, which is a mouse.

5. The transgenic mouse of claim 4, wherein the cells containing a disruption of the *FHIT* locus are both germline cells and somatic cells.

6. The transgenic mouse of claim 4, wherein said disruption of the *FHIT* locus is homozygous.

7. The transgenic mouse of claim 4, wherein said disruption of the *FHIT* locus is heterozygous.

8. The transgenic mouse of claim 6 or 7, said mouse being characterized by a prediposition to developing a spectrum of visceral and skin tumors.

9. The transgenic mouse of claim 6 or 7, said mouse being characterized by hypersensitivity to NMBA.

10. The transgenic mouse of claim 6 or 7, further comprising a disruption in the *MSH2* gene.

11. A cell culture prepared with cells from the transgenic mouse of claim 6.

12. A cell culture prepared with cells from the transgenic mouse of claim 7.

13. A method of testing carcinogenicity of a molecule, comprising

(a) administering said molecule to the transgenic mouse of claim 5; and

(b) comparing the rate of tumor formation in said transgenic mouse with a control mouse of the same genotype to which the molecule is not administered;

wherein an increased rate of tumor formation following administration of the test molecule is indicative that the molecule is a carcinogen.

14. A method of testing carcinogenicity of a molecule, comprising

(a) contacting the cell culture of claim 11 or 12 with said molecule; and

(b) comparing the rate of proliferation of said cell culture with an untreated cell culture;

wherein an increased rate of proliferation following exposure to the test molecule is indicative that the molecule is a carcinogen.

15. A method of testing the therapeutic efficacy of a molecule in treating or preventing cancer comprising:

(a) administering said molecule to the transgenic mouse of claim 5; and;

(b) comparing the rate of tumor formation in said transgenic mouse with a control mouse of the same genotype to which the molecule is not administered;

wherein a reduced rate of tumor formation following administration of the test molecule is indicative that the molecule has therapeutic value for cancer.

16. A method of testing the therapeutic efficacy of a molecule in treating or preventing cancer comprising:

(a) contacting the cell culture of claim 11 or 12 with said molecule; and

(b) comparing the rate of proliferation of said cell culture with an untreated cell culture;

wherein a reduced rate of cell proliferation following exposure to the test molecule is indicative that the molecule has therapeutic value for cancer.

17. The method of claim 15, wherein the cancer is a gastrointestinal cancer.

18. The method of claim 16, wherein the cancer is a gastrointestinal cancer.

19. The method of claim 15, wherein the cancer is a Muir-Torre Syndrome-related cancer.

20. The method of claim 16, wherein the cancer is a Muir-Torre Syndrome-related cancer.

21. The method of claim 15, wherein the cancer is hereditary non-polyposis colorectal cancer.

22. The method of claim 16, wherein the cancer is hereditary non-polyposis colorectal cancer.